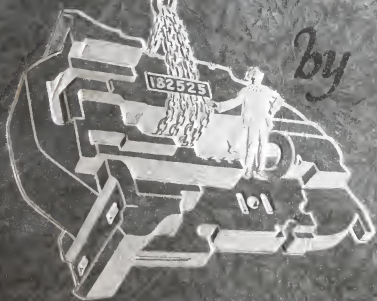


154

"From Plans to Pour"



by

AUSTIN



"FROM PLANS TO POUR"



A treatise on Austin Complete
Foundry Service, which embraces
Industrial Reports and Appraisals,
Financing, Plant Layout, Design,
Construction, Foundry Equipment
and its Installation.

THE AUSTIN COMPANY 20 CLEVELAND

Engineers and Builders of Complete Foundries

NEW YORK
CHICAGO
PHILADELPHIA

DETROIT
PITTSBURGH
BIRMINGHAM

ST. LOUIS
PORTLAND
SEATTLE

THE AUSTIN COMPANY OF CALIFORNIA: LOS ANGELES AND SAN FRANCISCO
THE AUSTIN COMPANY OF TEXAS: LINZ BUILDING, DALLAS



1104



1105



1106



"From Plans to Pour"

THE FOUNDRY COMPLETE

The Foundry Field is Highly Specialized and its Planning both as to Building and Equipment requires a Highly Specialized Service. This Book tells of Austin Performance in the Foundry Field.

The Foundryman and His Problems

THE foundryman, in carrying on his business, has to meet a set of conditions peculiar to his own industry. His plant is like no other manufacturing establishment. His equipment is adapted to nothing else than the melting of metal and turning it into marketable shapes for a multitude of industries.

The planning of a new foundry therefore, or the extension or alteration of a foundry now in operation involves the exercise of judgment and the application of specific knowledge gained in this particular field.

This applies both to the design of the building intended to house the new establishment or the changes in the old, as well as the selection of the equipment for either.

The industry is endeavoring to keep in step with all other fields in the matter of improved devices for the perfection of the product of the foundry, increasing the volume of production, and lightening the burden of labor.

Therefore, it is a matter of pride with The Austin Company that Austin Engineers are keeping in touch with every new and proved development in the foundry field that makes for greater efficiency in foundry practice. In this connection, however, Austin clients may feel assured that their own interests are well safeguarded, for Austin Engineers are guided by this wise dictum,

"Be not the first by whom the new is tried,
Nor yet the last to lay the old aside."

This book presents a few of many Austin-Planned, Austin-Built and Austin-Equipped Foundries—foundries turned over to their owners all ready for pouring the first heat.

That is what is meant by Austin Unit Responsibility—the shouldering of the whole load by the Austin Organization—one contract with one organization equipped to render Complete Service in the realization of The Foundry Complete,

"From Plans to Pour"



The New Foundry

Preliminary Considerations

AS the new foundry begins to take shape in the minds of its projectors a multitude of considerations present themselves for attention.

The major grouping of these considerations can be summed up as follows:

- I. Inception
- II. Construction
- III. Production

In the majority of cases outside assistance is required to insure the proper procedure.

In order that this assistance may be given aright, specially trained artisans are required, who preferably are within a single organization. Here maximum results should be secured.

Further subdivisions:

I. Inception

1. Proper type and size of foundries.
2. Appraisals and Financing.
3. Industrial reports and recommendations as to plant development.
4. Location with respect to:
 - (a) Suitable supply and price of raw materials.
 - (b) Available labor market.
 - (c) Desirable highway and railroad facilities.
 - (d) Geographical advantages.
 - (e) Disposal of waste materials.
 - (f) Proper soil bearing values.
 - (g) State or city codes or restrictions.
 - (h) Abundance of power supply and advantageous rates.
 - (i) Fire hazards and insurance requirements.
 - (j) Purchase or lease of adjacent property for future expansion or development.
 - (k) Selection of assistants either engineering, architects and builders, or by complete organization embracing each, or better, pass

the responsibility to the Austin Unit Responsibility Plan.

II. Construction

1. Construction to include proper:
 - (a) Size and extent of plant.
 - (b) Number and types of various buildings.
 - (c) Lighting, both artificial and natural illumination.
 - (d) Ventilation, preferably natural if possible.
 - (e) Heating, lighting and plumbing, and allied lines.
 - (f) Consideration of modern tendencies and procedures.
 - (g) Utility without extravagance.
 - (h) Permanency of structures.
 - (i) Most practical floors for purposes indicated.

III. Production

1. Depending upon proper selection of:
 - (a) Dependable and economical labor saving devices.
 - (b) Use of old equipment and selection of new.
 - (c) Routing and process of manufacture.
 - (d) Standard equipment when suited.
 - (e) Warehouse and storage facilities.

By reason of many years of experience Austin is in a position to give real help in covering all these and other points vital to the successful and continued operation of the new foundry.

If the matter of financing the new venture is slowing up the development of what good business judgment dictates will be a paying establishment, Austin will give substantial assistance in this connection.

In short, Austin Service is complete, covering Financing, Planning, Design, Construction and Equipment.

The Old Foundry

Planning—Foresight vs. Hindsight

The foundry, now in operation which has outgrown its present quarters in some respect or which has become obsolescent through a change in product or processes, calls for rebuilding, enlargement, or expansion.

In making plans for needed expansion the possibility of further changes should be kept in mind. It is not saying too much to suggest that the ultimate reconstruction of the whole plant should be forecast and made one of the factors in the scheme for immediate necessary work.

Until this is done, and a layout made that will insure the co-ordination of future develop-

ment work, no additions should be made to present facilities.

A building "tacked on" here or there just as it may happen to fit into the present plan may be found to be a misfit when the big job of reconstruction is begun.

Austin Engineers have been very successful in planning for conditions of this kind. The forward look when the foundryman begins to feel the need of setting his tent stakes a little further out, will save untold expense and insure lasting future satisfaction.

Foresight is always better than hindsight. Let the Austin Method provide the foresight.

Austin Versatility

As concrete evidence of Austin Versatility in the planning, construction and equipment of the Foundry Complete we present on this and following pages some examples of the work done by Austin Engineers to meet the requirements of foundries of every type, large and small.

There is no guess-work or hit-or-miss about an Austin-Built Complete Foundry. If Aus-

tin installs an electric charging machine to feed the cupola of your foundry you may feel that it will be a profitable investment.

On the three pages immediately following are a number of views of installations of Material Handling Equipment of Austin design and construction, which have solved the problem of handling materials outside the foundry.

Material Handling—Outside the Foundry



Plate 1001

Left

Skip hoist used in conveying materials to charging floor, electrically operated. For small heats single operator takes care of melt.



Plate 1002

Right

Elevator service in connection with yard storage. Materials handled by hand.



Plate 1003

Left

One of a number of Austin installations where ramp is used to convey materials to the charging floor.



Plate 1004



Plate 1005

Railroad service delivering materials to charging floor level.

Material Handling—Outside the Foundry

Right

Raw materials received by railroad service. Received and stored under cover. Elevated track provides unloading by gravity.



Plate 1007

Right

Overhead yard crane for serving open bins; also handling materials to charging deck.



Plate 1008

Foreground. Yard crane service for storing flasks. Background. Similar service for unloading and storing raw materials including delivery of materials to the charging floor.

Plate 1009



Plate 1009

Left

Monorail system giving through service for storing materials on either side of the cupola house and delivering materials to the charging floor.



Plate 1010



Plate 1010

Yard Crane serving charging deck of generous proportions suitable for medium size foundries.



Material Handling—Outside the Foundry



Plate 1011

Right

Typical arrangement of bays for storing coke and various kinds of sand. Metal stock carried in the open. Elevator service to charging floor



Plate 1013

Right

Typical cupola house having charging crane for handling buckets into the cupola direct from the yard level. Yard crane for unloading and storing materials shown in the open space to the right of the building. Core oven stack in the background



Plate 1012

Left

Showing covered portion of courts between units in a large combined foundry, permitting cores made in the building on the right to be transported to the iron foundry on the left regardless of weather conditions.



Plate 1014

Charging Systems

HAND charging still prevails where either the tonnage is extremely small or the character of the work requires careful arrangement of the materials in the melting units.

Mechanical charging of moderate capacities permits the use of either electric magnets or charging buckets. In the case of larger capacities, charging buckets handled by mechanical means or charging cars side-dumped either pneumatically or electrically can be used.

The arrangement of the material storage yard, its limitations or amount of materials to be carried will many times determine which method should be used. In the majority of

cases the selection should be made after careful study of the requirements giving due regard to costs and advantages of methods already used under similar conditions.

With the Austin Company's complete foundry service covering work from coast to coast, and the experience of installing practically every type already on the market the proper selection is ensured.

Particular regard should be given to the proper selection when operating under continuous melting as a uniform supply of materials is of most vital importance. The accompanying photographs illustrate a number of installations referred to.

Hand charging

Plate 1015

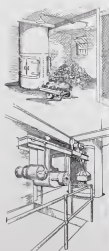


Plate 1017

Mechanical charging of cupola—cab control electrically operated.



Mechanical charging—air operated.

Plate 1016



Plate 1018

Mechanical charging of cupola with floor control—electrically operated.

Typical Layouts for Charging Floors

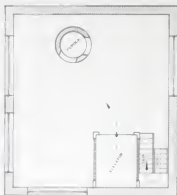


Plate 1019

Typical layout showing charging floor arranged for elevator service and hand charging of cupola suitable for small foundries.

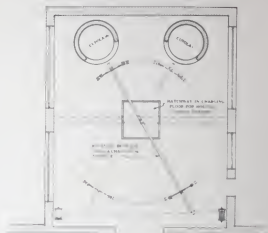


Plate 1020

Typical arrangement of bucket charging machine suitable for serving either of two cupolas. Beam rotated by means of hand winch as shown.

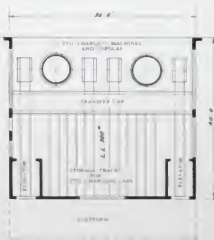


Plate 1021

Straight line mechanical charging for cupolas using pneumatic tilting device for charging cars.

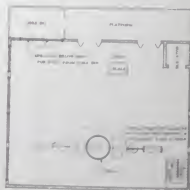


Plate 1022

Typical layout for hand charging with provision for future mechanical charging.



Charging Systems

Right
Hand Charging arranged for elevator service.



Plate 1023

Left
Cupolas charged from trucks operated by air hoist.



Plate 1024

Right
Hand charging arranged for using lift truck served by either elevator or yard crane.



Plate 1025

Left
Mechanical charging using electric charging crane for handling materials directly from the yard into the cupola.



Plate 1026

Right
Showing the relation of the elevator in respect to the cupola.

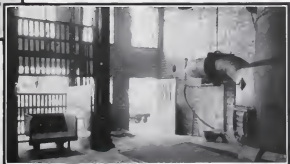


Plate 1027

Material Handling—Inside the Foundry

INSIDE the foundry there are bulky and heavy materials to be handled—core and molding sands, flasks, patterns, cores and castings.

Whether electric cranes, overhead tramrail, telpor or conveyor systems shall be used depends upon analysis of the production schedule set up for the new plant, keeping always in mind provision for ultimate expansion and consequent increased loads.

The broad experience of Austin Foundry Engineers ensures the installation of the proper equipment for this very important job. This is proved by their success in the past.

A recent example of this may be found in the case of a large foundry job just completed

where the following units were only a part of the work involved in equipping the Molding Department:

This was a combined Foundry requiring separate conditioning and conveying systems for

- a—Core Sands for Aluminum, Brass and Iron Foundry.
- b—Facing Sand for Iron Foundry.
- c—Fine Sand for Iron Foundry.
- d—Coarse Sand for Iron Foundry.
- e—Sand for Brass Foundry.
- f—Sand for Aluminum Foundry.
- g—Refuse Sand from each foundry to storage hopper and shipping.
- h—Reclaimed and reconditioned sands.

Also Drag and Gravity Conveyors for handling molds before and after pouring.

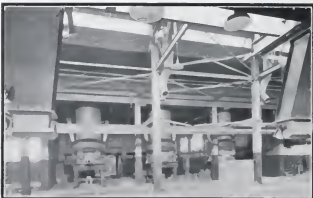


Plate 1104

Left

Cupola arrangement for metal distribution by electrified monorail system. In the foreground hoppers can be seen for delivering molding sand. In the background are floor gratings for receiving returned sand.

Right

Typical interior of continuous type foundry showing conveyors, monorail system and floor gratings for returned sand.



Plate 1105

Material Handling—Inside the Foundry

Right

Sand storage served by overhead crane for unloading cars and serving bins and hoppers above mixers.



Plate 1028



Plate 1029

Left

Showing distribution of core sand in combined foundry for handling work for Iron, Brass and Aluminum.



Plate 1030

Right

Core Mixing Department. Minimum amount of labor required.



Plate 1031

Left

Numerous electric cranes and complete monorail system for molding of medium weight.

Core Making and Handling

THE Core Department is becoming one of the most important and intricate units of a foundry. This tendency may be the result of more complicated castings being turned out of the foundry or the desire to reduce the molding or other requirements.

This applies equally well to either pasting or mold drying ovens. All require careful planning and equipping.

For this reason an Austin group of Engineers is specializing on this, while other groups specialize on other department requirements.

By this method well known for its efficiency, proper thought and attention can be given to each department to ensure satisfactory results.

Where standard equipment does not meet special requirements, Austin Engineers will design the ovens and hardware to meet the conditions. A number of the accompanying illustrations are examples of Austin Complete Service.

Many of these layouts and selection of equipment necessitate time studies and careful calculation based upon work to be handled.



Plate 1032

Right

Mold and core drying ovens designed to meet special requirements. Oven and door construction designed and installed by Austin.



Plate 1033



Plate 1034

Left

Showing typical arrangement of car type and drawer type ovens for medium size foundry.

Core Making and Handling

Right

Typical installation of metal type core ovens of car and transrack type suitable to many types of foundries.



Plate 1035

Left

Core making department separated from core oven department by partitions to prevent gas nuisance. Core sand delivered to benches along galleries and through spouts shown.



Plate 1036

Right

Designed to meet special requirements. Another example of unit construction under Austin Complete Foundry Service.



Plate 1037

Left

Typical oven arrangement for taking cores and molds for steel foundry use. Typical lift-type doors are illustrated.



Plate 1038

Molding Systems—By Austin

WHEN providing molding facilities due regard must be given to modern development and practice. This applies to the arrangement and sizes of floors so that the best type of molding equipment shall be properly installed, thereby giving maximum production per square foot of floor space and still provide for future requirements.

Where sand cutting, conditioning, reconditioning or removal of waste is required, Austin, with its wide experience can help you in making the proper layout, selection and installation of equipment so that desired results can be correctly secured; with due regard to economy. Following illustrations show successful applications of the Austin Method.



Plate 1039

Right
Stove foundry with exceptionally long molding floors.



Plate 1040



Plate 1041

Left
Extensive monorail system for molding requirements required in the radiator jobs.



Molding Systems—By Austin

Right

View showing typical gray iron foundry arranged for continuous pouring using a combination of cranes and automatic trucks.



Plate 1042



Plate 1043

Right

Gates shown are for delivering conditioned molding sand to the various molding floors where the molds are handled on gravity conveyors and shaken out over floor gratings, continuous operation being required.

Left

Showing the adaptability of Austin Standard No. 2 for medium size work.



Plate 1044



Plate 1045

Left

Showing Austin No. 2 modified or multiple aisles to meet special requirements.

Ventilation and Light for the Foundry

A PRIME consideration in the design of the foundry building is the provision for adequate ventilation.

Where pouring is continuous, it is certain that natural ventilation will not serve to clear the molding room of the smoke and gases

continually rising from the molding floor. Artificial ventilation must be installed to perfectly accomplish the desired result.

The illustrations following present Austin-Built Foundries in which unusually good ventilation has been secured under all conditions.



Plate 1046

Right

Cross section typifying the method of obtaining complete ventilation by expelling the heavy foundry gases by heated air entering through floor inlets. Arrows indicate the flow of air, which can be completely controlled at will.



Plate 1047

Left

Incoming fresh air, heated, enters the foundry through the inlets along the various columns as shown, near floor level, and is expelled through the ventilating section of sash of the inverted roof. ("X" marks location of inlets).

Ventilation and Light for the Foundry

Right

Top view showing advantages of inverted type roof for obtaining proper ventilation.



Plate 1049



Plate 1049

Left

Showing adaptability of the Austin No. 3 building to insure proper light and ventilation for a typical stove foundry.



Plate 1050

Right

Good ventilation obtained through use of standard monitor. Suitable for heavy foundries of exceptional height.



Plate 1051

Left

Exterior of Austin Modified Standard Building showing type of roof and side wall sash selected to give an abundance of light and proper ventilation yet reducing the cubical contents of building.

Equipment for the Foundry

TOO much emphasis can hardly be placed upon the importance of selecting the proper size and type of equipment.

Many a well arranged foundry with improperly selected equipment is of constant annoyance and embarrassment to all concerned.

Likewise a poorly arranged plant causing congestion and back tracking although properly equipped, is disastrous.

Finally, an over equipped or an under equipped plant is not a money maker.

It is the function of The Austin Company to so construct its foundries that they will be commercially right, thereby safeguarding against any of the above mentioned possibilities. To accomplish this The Austin Company has established a *Complete Foundry Engineering Service*.

The Austin Company because of its wide scope of operation is constantly in touch with the development of new, also the workings of well established and tried equipment. Exact cost data is being constantly augmented by each additional Austin-Built Foundry so that, close estimates as to costs of installation or operation, can be quickly applied to new foundry problems.

The proper co-ordinating of departments, arrangement and selection of equipment can be quickly planned by the Austin Method.

Whether it be the selection of Cupolas, Electric Furnaces or other standard types of melting units, the most intricate core department requirement, the cleaning or shipping, Austin Equipment service can be advantageously used.

Austin wide experience in the planning and equipping of industrial plants of all kinds with heating, lighting, plumbing and power requirements, further benefits the foundry service.

Branch plants and warehouses are also a part of Austin Service.

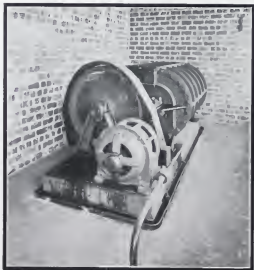


Plate 1052

Right

All fixed equipment shown, including elevator, industrial track, charging cars, etc., was specified, purchased and installed under the Austin Unit Responsibility Plan.



Plate 1053

Equipment for the Foundry

Right
Complete sand mixing unit, including floor
hopper, gratings and safety guards.



Plate 1051

Left
Cupola arrangement, showing skimming spout,
blast pipe, and mezzanine floor for blower.



Plate 1055

Right
Cupola arrangement, showing reservoir ladle,
blast pipe and mezzanine floor for blower.
Monorail system for carrying metal is also
shown.

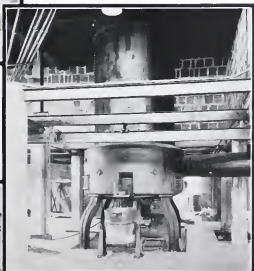


Plate 1056

Left
Notice protecting wall to safeguard men against
cupola drop or other dangers encountered in
cupola operations. All equipment shown was
furnished by Austin Complete Foundry Service.



Plate 1057

Equipment for the Foundry



Plate 1058

Left
Showing another type of wall around cupola.
Note numerous details shown during course of construction.



Plate 1059



Plate 1060

Right
Twin cupolas with common reservoir ladle for
use with hand, truck or crane distribution.

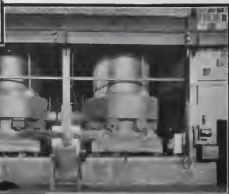


Plate 1061

Left
Construction view showing cupola and core ovens.

Left
Small foundry for medium size work, shown
prior to installation of cupola.

Equipment for the Foundry

Right
Suitable building for typical mill room. Note
single file battery of tumbling mills.



Plate 1062



Plate 1063

Left
Austin No. 10 Modified Standard Building, of
multiple aisles, used for cleaning department.



Plate 1064

Right
Suitable arrangement where cleaning department
is on the first floor, and molding department
on second floor.



Plate 1065

Left
A small portion of a large cleaning department
housing fifteen sand blast rooms. Dust arresters
and supports, with lean-to for housing exhaust
fans. Another example of Austin planning and
construction.

Equipment—Austin Concrete Construction



Plate 1506

Right

Type of separators for use in connection with exhaust system of large pattern shop.



Plate 1507



Plate 1508

Right

Reinforced concrete waste storage bins filled by gravity from cars operating on track over bins.



Plate 1509

Left

Reinforced concrete scrap bins served by overhead crane with electric magnet. Provision in background for installation of two large electric furnaces.

Left

Typical arrangement of dust arresters and supports for serving cleaning department of large foundry.

Equipment for the Foundry

Right

Warehouse for large radiator plant.

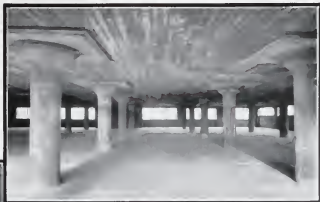


Plate 1070

Left

Typical multi-story warehouse, of reinforced concrete construction, used in large radiator plant.



Plate 1071

Right

Shipping dock for shipping radiator sections.



Plate 1072

Left

Typical pattern storage or pattern shop for multi-story building.



Plate 1073



Equipment for the Foundry



Plate 1674

Right

Multi-story reinforced concrete building used for housing pattern storage, large pattern shop, and suitable for manufacturing purposes if required.

Left

For storing and handling lumber for pattern shop. An Austin No. 2 Standard Building.



Plate 1675



Plate 1676

Right

This is an illustration of one of the conveying systems installed by Austin. Many other types of conveyors and elevators have been designed and installed for handling various materials such as molten sand, refuse sand, etc.

Left

A large pattern shop using an Austin No. 3 Standard Building.

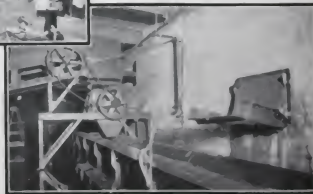


Plate 1677

Equipment for the Foundry

Right

Good illustration of the adaptability of the Austin No. 3 Standard Building to machine shop or light manufacturing work.

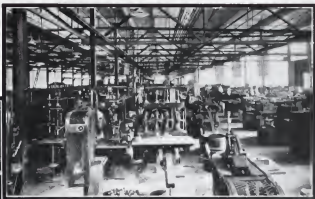


Plate 1078

Left

Many similar installations have been made by Austin. This is another example of Austin Complete Service.

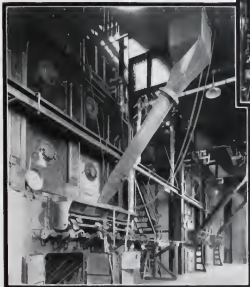


Plate 1079

Right

An Austin construction view showing other phases of Austin Service. Whether complete power plants, heavy concrete construction or specially designed steel, Austin is in a position to meet special requirements regardless of size.



Plate 1080

Left

A striking illustration of extreme requirements in heavy machine shop and foundry work. Note the 100 Ton crane at the upper level and 25 Ton cranes at the lower level.



Plate 1081



Austin-built Steel Plants



Plate 1082

Right

The typical melting department employing electric furnaces for pouring ingots. Concrete storage bins for raw materials appearing in the background.

Left

Showing portion of electric steel foundry designed as a part of a large unit.



Plate 1083

Left

One of Ohio's largest steel foundries, in which the casting weighing over 132,000 pounds, shown on the front cover of this book, was cast. Equipment includes 19 heavy duty cranes.



Plate 1084

Right

Designed with elevated charging platform for accommodating an electric furnace for making various grades of steel.

Plate 1085



Plate 1086

An example of an Austin-constructed steel plant. This complete work included construction of the various buildings shown, extensive railroad track installation, together with elevated portion for coal storage.

Austin-built Brass Foundries

Right

One of the types of mold conveyors suitable for small brass foundry laid out, designed and built by Austin.



Plate 1088

Right

Suitable building for a large brass or aluminum foundry.



Left

An Austin No. 2 Standard Building used for small brass foundry.



Plate 1087

Left

Building construction giving maximum ventilation. Type usually required for brass ingot and rolling departments.

Plate 1090



Plate 1089



Plate 1091

Small manufacturing plant for making and finishing brass castings.

Foundry Layout



Plate 1092

Cross-section of a typical, heavy type, gray iron foundry. Building designed and constructed for abundance of light and ventilation without affecting utility.



Plate 1093

Front elevation showing the generous use of brick and steel sash for desired architectural treatment. Opposite end of building constructed of temporary materials to afford easy expansion in that direction.

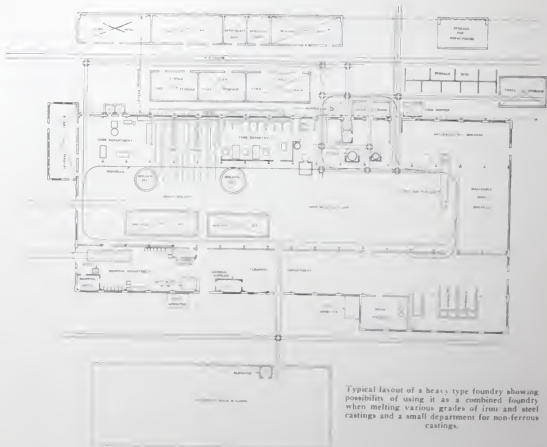
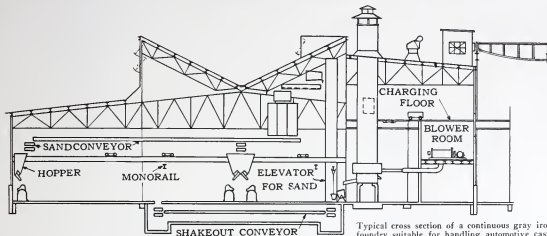


Plate 1094

Typical layout of a heavy type foundry showing possibility of using it as a combined foundry when melting various grades of iron and steel castings and a small department for non-ferrous castings.



Foundry Layout



Typical cross section of a continuous gray iron foundry suitable for handling automotive castings, or castings of a similar character. Note the many labor-saving devices to insure maximum production.

Typical layout showing arrangement of equipment for conveying conditioned molding sand to the floor, the carrying of molds, either before or after pouring, and the return of shake-out and knock-out sands.

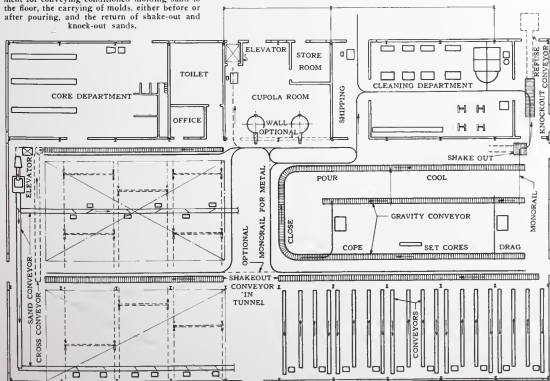
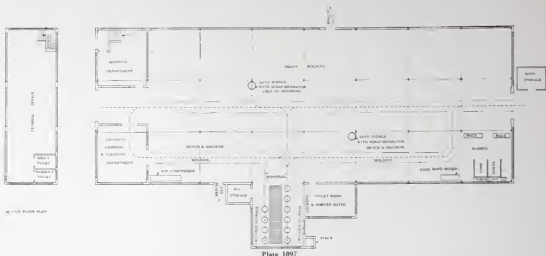
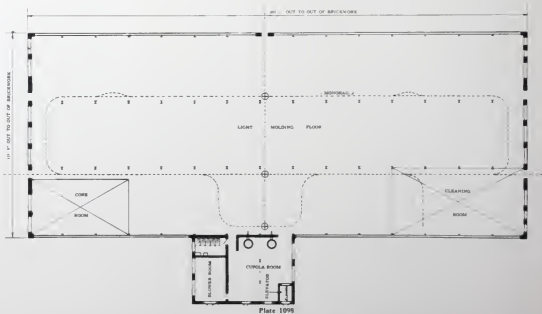


Plate 106

Foundry Layout



Typical layout showing arrangement of equipment suitable for a small brass or aluminum foundry, where it is desired to keep the melting department separate from the molding and other departments.



Typical layout of gray iron foundry making light-weight castings. Austin-designed, built and equipped.

The Combined Foundry

A MODERN development in foundry practice in which The Austin Company has played no small part is the Combined Foundry.

The Combined Foundry is the collection into one manufacturing unit of several such units as a gray iron foundry, a brass foundry, a steel foundry, or similar combinations.

The economies secured by such an amal-

gamation have been demonstrated in practice. These savings begin with the molding sand storage and are found in other departments through to the shipping room.

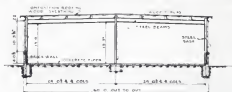
"The Advantages of Combined Foundries" is the title of a booklet which The Austin Company will be glad to send to any foundryman or manufacturer who may be interested. A postal card or letter will bring it.



Plate 1099

Austin Standard Factory Buildings

Essential Materials for these buildings in Austin Stock assures prompt delivery of the completed structure.



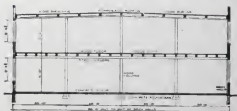
1 Austin No. 1 Standard, for small machine and light manufacturing shops. Width 60 ft. Length any multiple of 20 ft.



2 Austin No. 2 Standard, for light machine shops, foundries, etc. Width 90 ft. Length any multiple of 20 ft.



5 Austin Nos. 5, 6 and 7 Standards, for machine shops and foundries. Center aisle approximately 40 ft., 50 ft., 40 ft. wide, respectively. Side aisles, approximately, 30 ft. wide for each of these types.



8 Austin No. 8 Standard, multi-story mill-type building of steel and timber. Size any multiple of 16 ft. x 20 ft.

Austin Standard Factory-Buildings

More than half a million square feet of floor space is The Austin Company's normal stock of essential materials for these buildings.



3 Austin No. 3 Standard, universal type for light manufacturing. Width 100 ft. Length any multiple of 20 ft.

4 Austin No. 4 Standard, for general manufacturing shops, textile manufacturing, etc. Size can be any number of panels 20 ft x 10 ft.



9 Austin No. 9 Standard, flat-slab reinforced concrete multi-story building. Size any multiple of 20 ft x 20 ft.

10 Austin No. 10 Standard, for heavy machine, drop forge, foundries and railroad repair shops. Width 150 ft. Length any multiple of 20 ft.



Austin Complete Foundry Service

AUSTIN Complete Foundry Service means just this: At the very inception of your project you can call in an Austin representative who is prepared to consider your problems and determine what phase of Austin

Service is best applicable for your immediate needs. These preliminary studies and decisions then become a basis for further developments embracing any or all of the following branches of Austin Complete Foundry Service:

Layout
Design
Construction
Equipment
Installations
Appraisals

Financing
Industrial Reports
Recommendations for
Alterations
Extensions and
Plant Development

In other words, Austin Complete Foundry Service embraces every phase from the inception of the project to the pouring of the first heat, including the installation of any or all equipment; hence the term

"FROM PLANS TO POUR," by Austin."

Every step is handled under the Austin Unit Responsibility Plan, relieving you of the responsibility of any or all portions of the work in connection with your foundry project.

One Organization, working under
One Contract, at a
Guaranteed Fixed Price, with a

Guaranteed Delivery Date, with
Guaranteed Workmanship and
Materials, and

Guaranteed Austin-specified Equipment, mean the foundry complete "From Plans to Pour," when and as promised.

If you are thinking now of building a new foundry, a combined foundry, or of enlarging and improving the old foundry, let an Austin Engineer talk it over with you before you go any further. Use the enclosed post card or send a letter briefly outlining what you have in mind.

THE AUSTIN COMPANY ~ CLEVELAND

Engineers and Builders of Complete Foundries

NEW YORK
CHICAGO
PHILADELPHIA

DETROIT
PITTSBURGH
BIRMINGHAM

ST. LOUIS
PORTLAND
SEATTLE

THE AUSTIN COMPANY OF CALIFORNIA: LOS ANGELES AND SAN FRANCISCO
THE AUSTIN COMPANY OF TEXAS: LINZ BUILDING, DALLAS



WORLDWIDE SERVICE